

REMARKS

Applicants acknowledge with appreciation the Examiner's detailed reply to Applicants' response to the Examiner's previous office action. Applicants have attempted to address the Examiner's continued concerns and rejections by further amendment to the claims and by further remarks as indicated below.

Allowable Claim

Applicants acknowledge with appreciation that the Examiner has indicated that Claim 4 is allowable.

Claim Rejections—35 U.S.C. § 112

The Examiner has rejected claims 42, 50, 51, 53-55, 57, 58, and 85 under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 42, the Examiner has noted that olefins cannot have the structure of paraffins, since paraffins do not have a double bond. Applicants have now deleted claim 42. Regarding claim 50 and other claims dependent thereon, the Examiner has noted that improper Markush terminology has been used. Applicants have now amended claim 50 to use the proper language recommended by the Examiner.

Claim Rejections—35 U.S.C. § 102

The Examiner has rejected claims 14, 18-22, 25, 26 and 82 under 35 U.S.C. § 102(b) as anticipated by Mueller U.S. Patent No. 5,869,434. Specifically the Examiner has indicated that "Mueller teaches a drilling fluid which comprises an ester and **linear alpha olefin** as continuous phase, wherein the ester may be a product such as PETROFREE or rapeseed oil." (emphasis added). The Examiner states that "Applicants method of making the ester does not distinguish, since in product by process claims, only the product is examined."

The Examiner has rejected claims 15, 18-20, 50, 51, 53-55, 57, 58, and 85 under 35 U.S.C. § 102(b) as anticipated by WO 95/26486. Specifically the Examiner has indicated that "WO teaches an invert emulsion drilling fluid which comprises a triglyceride ester

oil and a mixture of alpha olefins or an ester, wherein the scope of the triglyceride ester and ester are within the scope of the present invention. . . .” He adds that “UltradriII taught in Example 9 is a mixture of C14-16 alpha olefins.”

Applicants respectfully traverse the Examiner’s rejections because isomerized olefins, used in Applicants’ invention, are different from linear alpha olefins. Applicants’ claims are directed to isomerized or internal olefins, not linear alpha olefins as in Mueller U.S. Patent No. 5,869,434 or WO 95/26486. Further, Applicants have stated on page 2 at line 21 and page 5 at line 8 of their specification that the olefins in their invention are “isomerized, or internal, olefins.” (emphasis added). By definition, “internal” olefins have their double bonds in positions **other** than the alpha position. Applicants respectfully submit that the Examiner can not satisfy the requisites of 35 U.S.C. § 102 by attributing Applicants’ teachings to a prior art reference. To find anticipation of claims, the prior-art embodiments must possess the properties expressly recited in the claims. Property limitations can serve to distinguish claimed subject matter from other products. *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 U.S.P.Q.2d 1129 (Fed. Cir. 1988).

Neither Mueller U.S. Patent No. 5,869,434 nor WO 95/26386 “disclose(s) every element of the challenged claim(s)” as necessary for the references to anticipate the claim(s). *PPG Industries, Inc. v. Guardian Industries Corp.*, 75 F.3d 1558, 37 U.S.P.Q.2d 1618 (Fed. Cir. 1996). The law is well settled that “to anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim.” *E.g., Brown v. 3M*, 265 F.3d 1349, 60 USPQ2d 1375 (Fed. Cir. 2001); *Electro Med. Sys. S.A. v. Dooper Life Sciences*, 34 F.3d 1048, 1052, 32 U.S.P.Q.2d 1017, 1019 (Fed. Cir. 1994) (“anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention”).

The Examiner has rejected claims 50, 51, 53-55, 57, 58 and 85 under 35 U.S.C. § 102(e) as being anticipated by Mueller U.S. Patent No. 6,165,946, citing Example 13. The Examiner has noted that Applicants’ “use of the term ‘selected from the group comprising’ opens up the claim to other glyceride trimesters other than those listed, and thus does not exclude rapeseed oil.” Applicants have further amended claim 50 to use the

term “selected from the group consisting essentially of” which limits the claim to the elements recited and thus excludes rapeseed oil.

The Examiner has rejected claims 1-3, 5-9, 12-22, 25-28, 30-33, 36-38, 43, 44, 48-51, 54[sic], 57, 58, 81-85 under 35 U.S.C. § 102(e) as being anticipated by Patel United States Patent Application Publication No. US 2001/0009890 A1. The Examiner has indicated that “Patel teaches a drilling fluid which comprises esters and an C16-18 isomerized olefin (see examples)” and that “Patel further teaches the combination of various esters and hydrocarbons such as mineral oils (see claims 1 and 9).” The Examiner states that “Such mineral oils would comprise paraffins according to the present invention.”

Applicants respectfully traverse the Examiner’s rejections based on Patel because Patel’s teachings are directed to an ester based synthetic drilling fluid and a hydrocarbon under conditions of “negative alkalinity.” [¶¶ 11, 40] Applicants’ invention does not require “negative alkalinity.” Anticipation requires **identity** of the invention. *Glaverbel Société Anonyme v. Northlake Marketing & Supply Inc.*, 45 F.3d 1550, 33 U.S.P.Q.2d 1496 (Fed. Cir. 1995)(emphasis added).

Claim Rejections—35 U.S.C. § 103

The Examiner has rejected claims 1, 10, 11, 14, 23, 24, 38-42, 45-47, 50, 54-56, 81, 82, 84, and 85 under 35 U.S.C. § 103 as obvious from Patel United States Patent Application Publication No. US 2001/0009890 A1. The Examiner states that, “Patel teaches a drilling fluid which comprises esters and hydrocarbons such as mineral oils” and that such mineral oils would comprise paraffins “according to the present invention” The Examiner admits that Patel differs from the present invention in that “the use of 2-ethylhexanol is not disclosed, and the specific composition of the mineral is not disclosed.” However, the Examiner considers that the use of 2-ethylhexanol would be obvious to one of ordinary skill in the art given the teaching of Patel that alcohols of C1-12 length may be used in the formation of the esters (claim 1). Further, the Examiner indicates that the use of low aromatic mineral oils comprising paraffins and olefins of low carbon chain length would be an obvious variation to one of ordinary skill in the art to protect the environment.

Applicants respectfully submit that the Examiner's statements reflect application of the regularly rejected **obvious-to-try** standard. See *Ex parte Erlich*, 3 U.S.P.Q.2d 1011 (B.P.A.I. 1986). The Federal Circuit has repeatedly held that obvious-to-try or obvious-to-experiment is **not the standard for obviousness** under 35 U.S.C. §103. *In re Geiger*, 815 F.2d 686, 2 U.S.P.Q.2d 1276 (Fed. Cir. 1987). **According to the Federal Circuit, an "obvious-to-try" situation exists when a general disclosure may pique the scientist's curiosity, such that further investigation might be done as a result of the disclosure, but the disclosure itself does not contain a sufficient teaching of how to obtain the desired result or indicate that the claimed result would be obtained if certain directions were pursued.** *In re Lilly & Co.*, 902 F.2d 943, 14 U.S.P.Q.2d 1741, 1743 (Fed. Cir. 1990).

The Federal Circuit has dictated that the prior art must provide a motivation or reason for the worker in the art, without the benefit of the applicants' specification, to make the necessary changes to reach applicants' invention. *In re Jones*, 958 F.2d 347, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992); *In re Deminski*, 296 F.2d 436, 230 U.S.P.Q. 313 (Fed. Cir. 1986); *accord, Ex parte Kranz*, 19 U.S.P.Q.2d 1216, 1218 (B.P.A.I. 1990).

A basic issue is whether the applied reference suggests the claimed invention as a solution to the specific problem solved by Applicants' invention. *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 221 U.S.P.Q. 481 (Fed. Cir. 1984). Focusing on the obviousness of substitutions and differences, as Applicants respectfully submit the Examiner has done here, instead of on the invention as a whole, is a legally improper way to simplify the difficult determination of obviousness. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81, 93 (Fed. Cir. 1976). There is no basis for concluding that an invention would have been obvious solely because it is a combination of elements that were known in the art at the time of the invention. *Smiths Industries Medical Systems Inc. v. Vital Signs Inc.*, 183 F.3d 1347, 51 U.S.P.Q.2d 1415, 1420 (Fed. Cir. 1999).

Applicants respectfully submit that Patel is focused on a different problem than Applicants and that Patel fails to suggest Applicants' invention. Patel teaches in paragraph 31 that esters that may be used in the practice of the Patel invention "do not

show the same in-use behavior as the ester based drilling fluids reported prior to the present invention.” Patel explains further in paragraph 31 that:

In practical application, the esters of C.sub.1 to C.sub.12 alcohol and C.sub.8 to C.sub.24 monocarboxylic acid undergo hydrolysis in the presence of hydroxide ion (OH.sup.-), resulting in the formation of the corresponding alcohol and carboxylic acid. The formation of acid in conventional ester based drilling fluid is of great concern because such fluids have an alkaline reserve which is chemically neutralized by the acids thus destabilizing the invert emulsion drilling fluid. Further the acid in the presence of lime may form a calcium soap which further promotes the adverse effect on rheology of the invert emulsion. The hydrolysis reaction is reported to be the primary reason for the careful selection of esters that are either thermodynamically or kinetically stable with regard to the hydrolysis reaction.

Patel goes on in paragraph 32 to teach that in his invention the hydrolysis of the ester is greatly reduced by substantially eliminating the source of hydroxide ion, “i.e., the alkaline reserve.” In this context, Patel teaches in paragraph 33 cited by the Examiner that the choice of esters which may be used in the invention may be selected from the general class of reaction products of monofunctional carboxylic acids with monofunctional alcohols. Patel indicates that C.sub.8-C.sub.24 carboxylic acids should be predominantly used and these may be derived from unbranched or branched hydrocarbon chains, preferably linear chains and may be saturated, monounsaturated or polyunsaturated. . . .” (emphasis added).

Patel’s teachings are directed to certain combinations that provide “negative alkalinity” conditions—that substantially eliminate hydroxide ion--which Patel teaches is in distinct contrast to known esters used in drilling fluids. Applicants on the other hand teach that their invention can employ esters that have been known to be useful as drilling fluids—the very type of esters that Patel distinguishes.

The Examiner has rejected claims 27-37 and 83 under 35 U.S.C. 103(a) as being unpatentable over Lin U.S. Patent No. 5,569,642 in view of Mueller U.S. Patent No. 6,165,946. Specifically, the Examiner states that Lin teaches “use of a mixture of linear and branched paraffins for use as the continuous phase of a drilling fluid” and that “the paraffin mixture may be used in combination with an ester to improve the performance of the fluid or lower costs. . . .” The Examiner admits that Lin differs from Applicants’ invention in not disclosing an example of such esters. However, the Examiner states that

Mueller teaches the use of an ester oil in drilling fluids which comprise esters of 2-ethylhexanol and that in his view it would be obvious to one of ordinary skill to use known drilling fluid ester formulations such as that of Mueller in the drilling fluid of Lin. The Examiner made the same rejection with similar reasoning in the previous office action. Applicants respectfully submitted in response that there is no suggestion in Lin or in Mueller as to which esters might be combined with which paraffins for suitability in a drilling fluid. Various art cited by the Examiner indicates that some esters are not effective or can be problematic in a drilling fluid. The Examiner responded that he was not persuaded because one of ordinary skill in the art would look to the type of esters used in the prior art to determine the type of esters which may be used. He added that since both Lin and Mueller are "directed to invert emulsion drilling fluids, one of ordinary skill in the art would clearly look to prior art such as Mueller, in order to determine the scope of esters to be used in Lin." Applicants respectfully request the Examiner to reconsider his position.

The Federal Circuit has dictated that **the prior art must provide a motivation or reason for the worker in the art, without the benefit of the applicants' specification, to make the necessary changes to reach applicants' invention.** *In re Jones*, 958 F.2d 347, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992); *In re Deminski*, 296 F.2d 436, 230 U.S.P.Q. 313 (Fed. Cir. 1986); *accord, Ex parte Kranz*, 19 U.S.P.Q.2d 1216, 1218 (B.P.A.I. 1990). "The motivation to combine references cannot come from the invention itself." *Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc.*, 31 F.3d 1068, 30 U.S.P.Q.2d 1377 (Fed. Cir. 1993). (Fed. Cir. 1986). Applicants respectfully submit that the Examiner has failed to cite such motivation leading to Applicants' invention. The Examiner has provided no basis or support in the references themselves for combining the references. "Absent such a suggestion to combine the references, [one] can do no more than piece the invention together using the patented invention as a template." *Texas Instruments Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 26 USPQ2d 1018 (Fed. Cir. 1993).

A basic issue is whether the applied references suggest the claimed invention as a solution to the specific problem solved by Applicants' invention. *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 221

U.S.P.Q. 481 (Fed. Cir. 1984). Focusing on the obviousness of substitutions and differences, as Applicants respectfully submit the Examiner has done here, instead of on the invention as a whole, is a legally improper way to simplify the difficult determination of obviousness. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81, 93 (Fed. Cir. 1976). When prior-art references require a selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). There is no basis for concluding that an invention would have been obvious solely because it is a combination of elements that were known in the art at the time of the invention. *Smiths Industries Medical Systems Inc. v. Vital Signs Inc.*, 183 F.3d 1347, 51 U.S.P.Q.2d 1415, 1420 (Fed. Cir. 1999).

The Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The motivation to make a specific structure is not abstract, but practical, and is always related to the properties or uses one skilled in the art would expect the structure to have, if made. The critical inquiry is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d 1248, 1250 (Fed. Cir. 1989). Both the suggestion and the expectation of success must be founded in the prior art, not in Applicants' disclosure. *In re Dow Chemical Co.*, 837 F.2d 469, 5 U.S.P.Q.2d 1529 (Fed. Cir., 1988). **It is the invention as a whole that must be considered in obviousness determinations.** The invention as a whole embraces the structure, its properties, and the problem it solves.

It is error to focus solely on the product created, rather than on the obviousness or non-obviousness of its creation. Thus, the question is whether what the inventor did would have been obvious to one of ordinary skill in the art attempting to solve the problem upon which the inventor was working. The problem solved by the invention is always relevant. **The entirety of a claimed invention, including the**

combination viewed as a whole, the elements thereof, and the properties and purpose of the invention, must be considered. Factors, including unexpected results, new features, solution of a different problem, and novel properties, are all considerations in the determination of obviousness in terms of 35 U.S.C. § 103. . . . The requisite view of the whole invention mandates consideration of not only its structure but also its properties and the problem solved. Notwithstanding the fact that only old elements are used, the patentability of a new combination of old elements, that produces a result that is not suggested in the references, is of ancient authority., Virtually all inventions are combinations, and every invention is formed of old elements.

In re Wright, 848 F.2d 1216, 6 U.S.P.Q.2d 1959, 1961 (Fed. Cir. 1998 (emphasis added)).

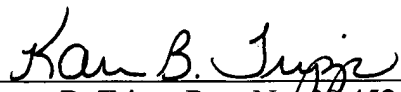
Applicants respectfully submit that the Examiner's conclusion that the combination of the two references renders Applicants' invention obvious is erroneous.

Applicants have amended some claims to indicate that the "base" of the drilling fluid "consists essentially of" the specified blend, rather than the "base or continuous phase of the drilling fluid comprises" to clarify that Applicants' invention is focused on such blending and blended fluids as the emulsion base and is not meant to encompass or claim all possible drilling fluids that might contain an ester and an olefin or a paraffin in the continuous phase.

Applicants respectfully submit that the claims as amended are now in condition for allowance and Applicants respectfully request the Examiner to allow the application to proceed to issue.

Respectfully submitted,

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Karen B. Tripp, Reg. No. 30,452
Attorney at Law
P.O. Box 1301
Houston, Texas 77251-1301
(713) 658-9323 phone
(713) 658-9410 fax
ktripp@tripplaw.com e-mail

c: Craig W. Roddy, Esq.